Improving Patient Safety

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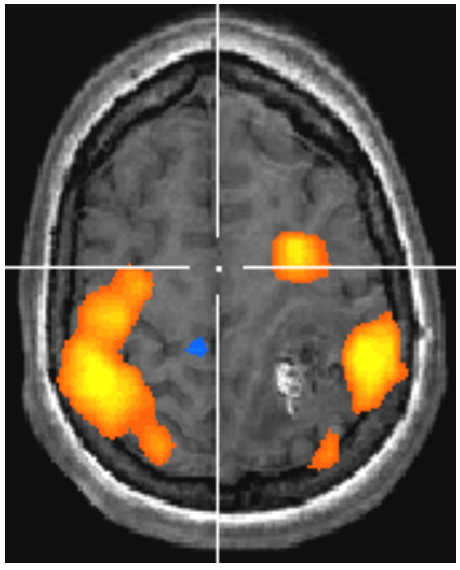
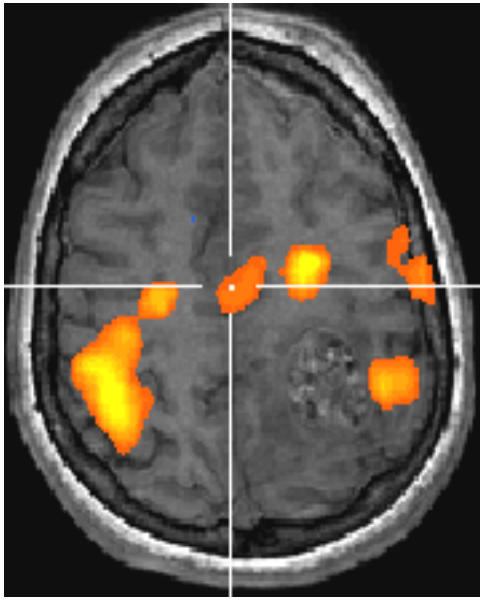
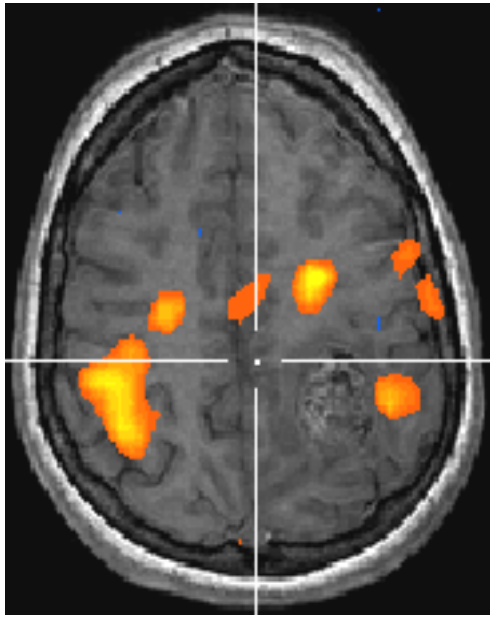
Bilateral cued finger movements







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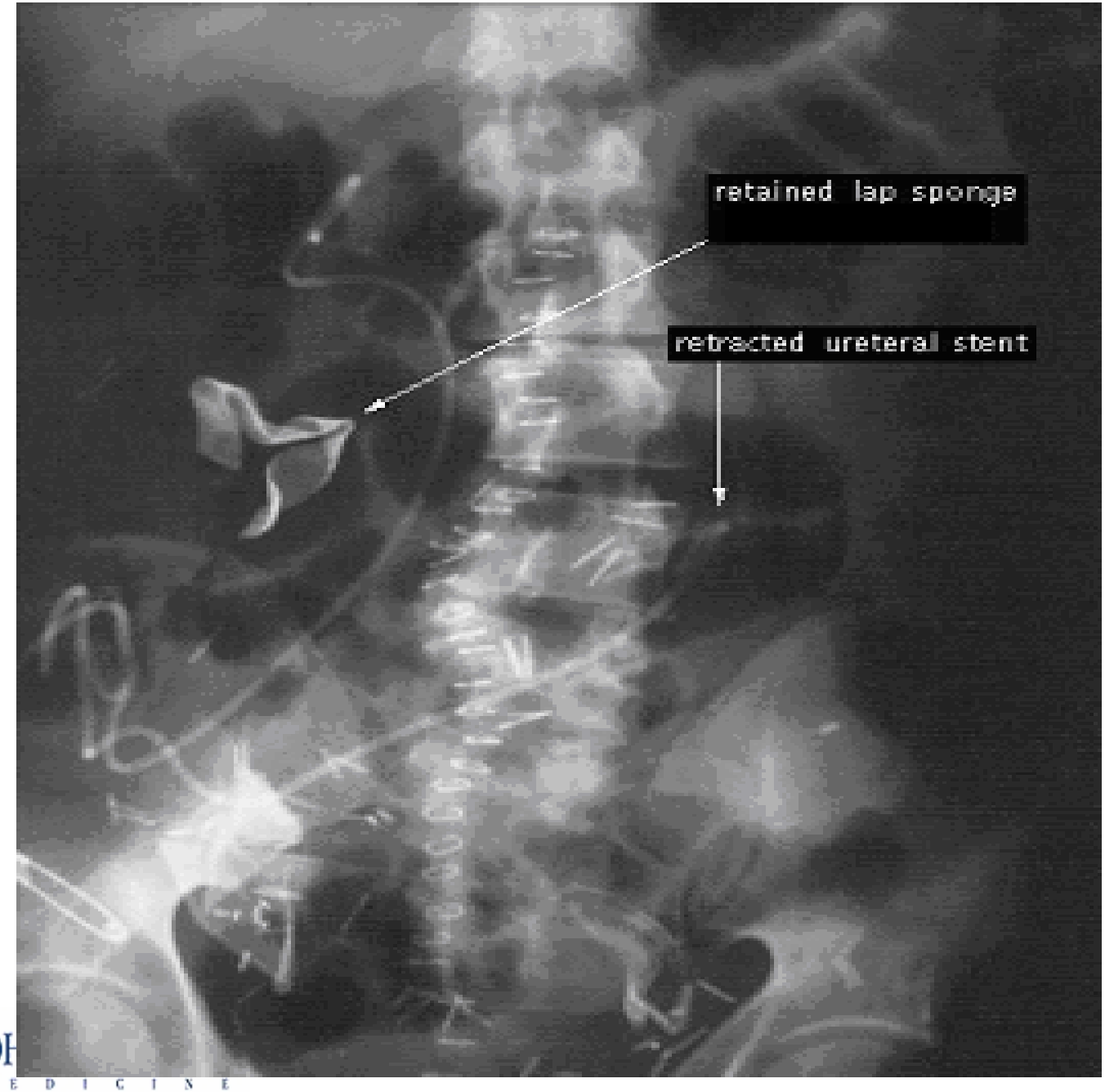
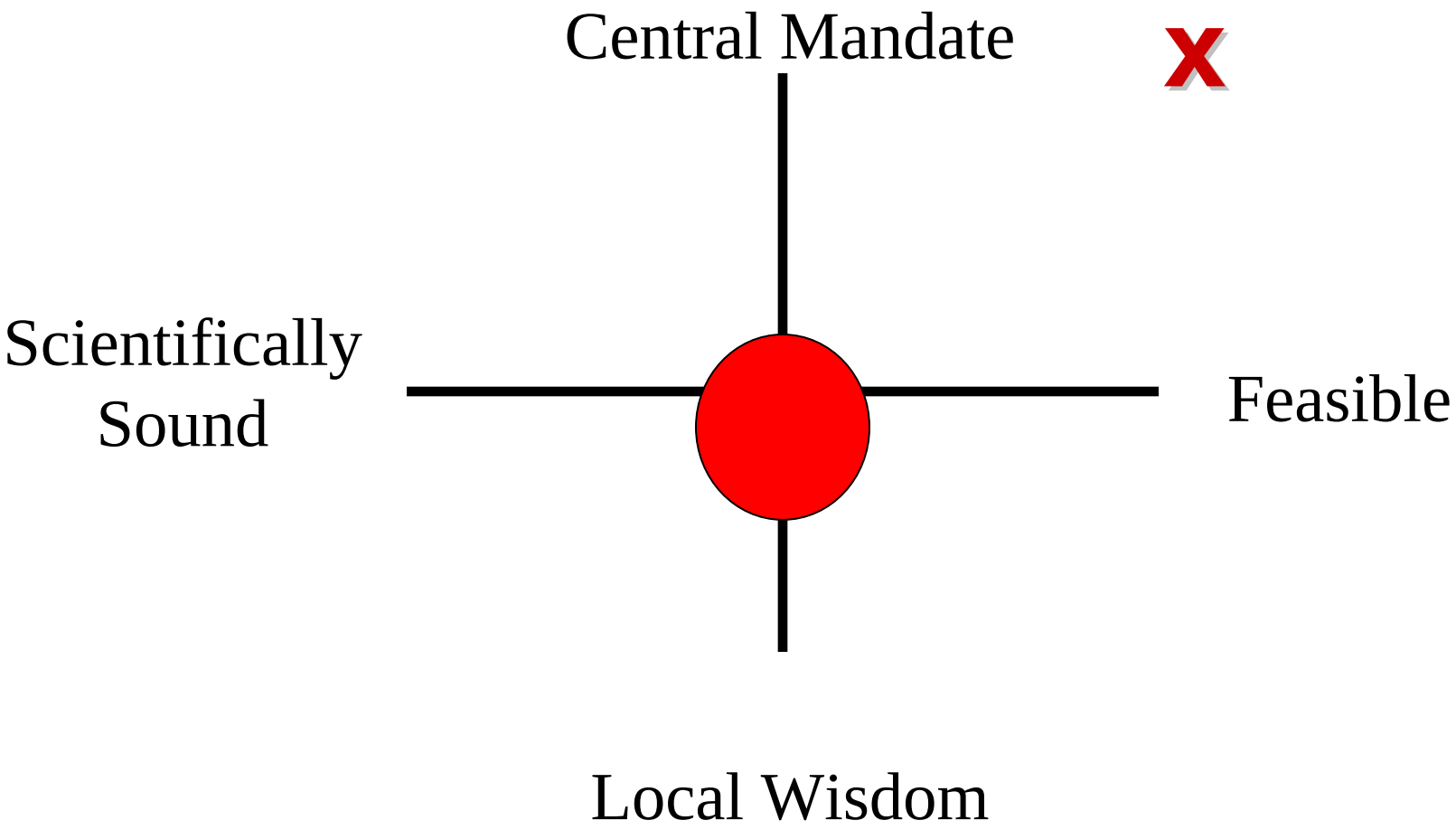
MEDICINE


retained lap sponge
retracted ureteral stent


Central Mandate
X
Scientifically Sound
Feasible
Local Wisdom

Exercise

Please answer each question with a score of 1 to 5.
1 is below average, 3 is average and 5 is above average

- How smart am I
- How hard do I work
- How kind am I
- How tall am I
- How good is the quality of care we provide

The Problem is Large

In U.S. Healthcare system

- 7% of patients suffer a medication error
- Every patients admitted to an ICU suffer adverse event
- 44,000- 98,000 deaths
- $50 billion in total costs

RAND Study Confirms Continued Quality Gap

Condition	Percentage of Recommended Care Received
Low back pain	68.5
Coronary artery disease	68.0
Hypertension	64.7
Depression	57.7
Orthopedic conditions	57.2
Colorectal cancer	53.9
Asthma	53.5
Benign prostatic hyperplasia	53.0
Hyperlipidemia	48.6
Diabetes mellitus	45.4
Headaches	45.2
Urinary tract infection	40.7
Hip fracture	22.8
Alcohol dependence	10.5

McGlynn et al, NEJM 2003; 348(26):2635-2645

How can this happen?

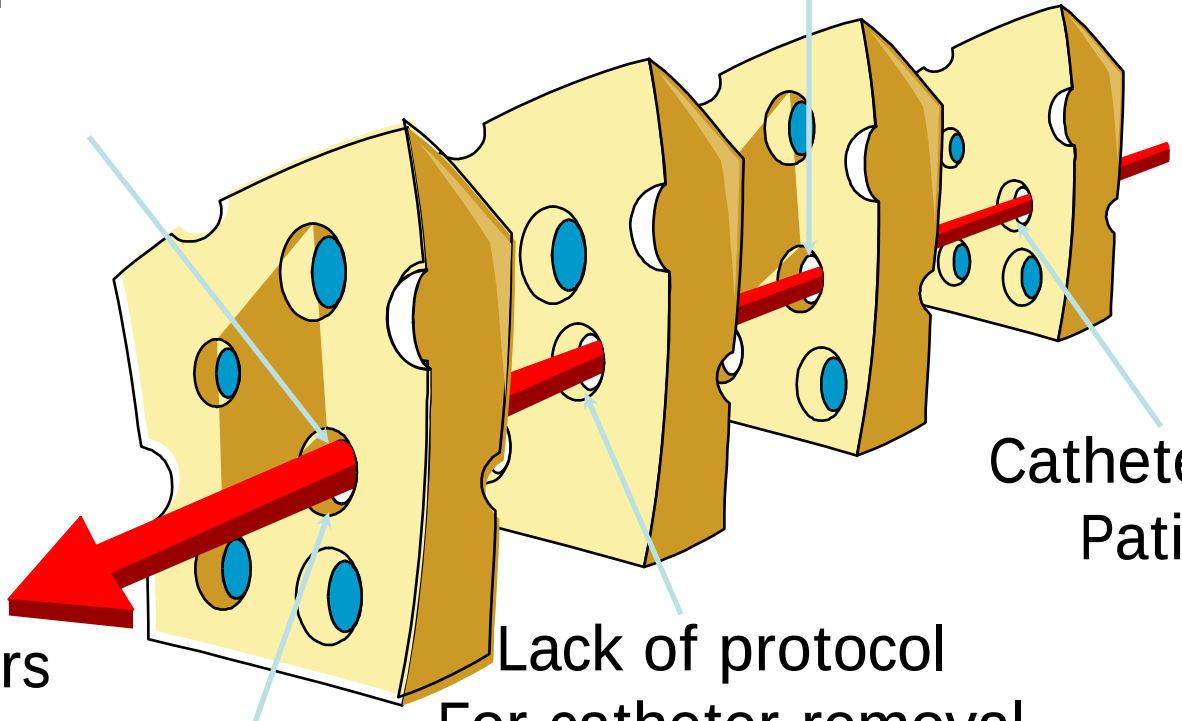
Need to view the delivery of healthcare as a science

How can we improve? Understand the science of safety

1. Every system is perfectly designed to achieve the results it gets
2. Understand principles of safe design
   - standardize, create checklists, learn when things go wrong
3. Recognize these principles apply to technical and team work
4. Teams make wise decision when there is diverse and independent input

Caregivers are not to blame

System Failure Leading to this error



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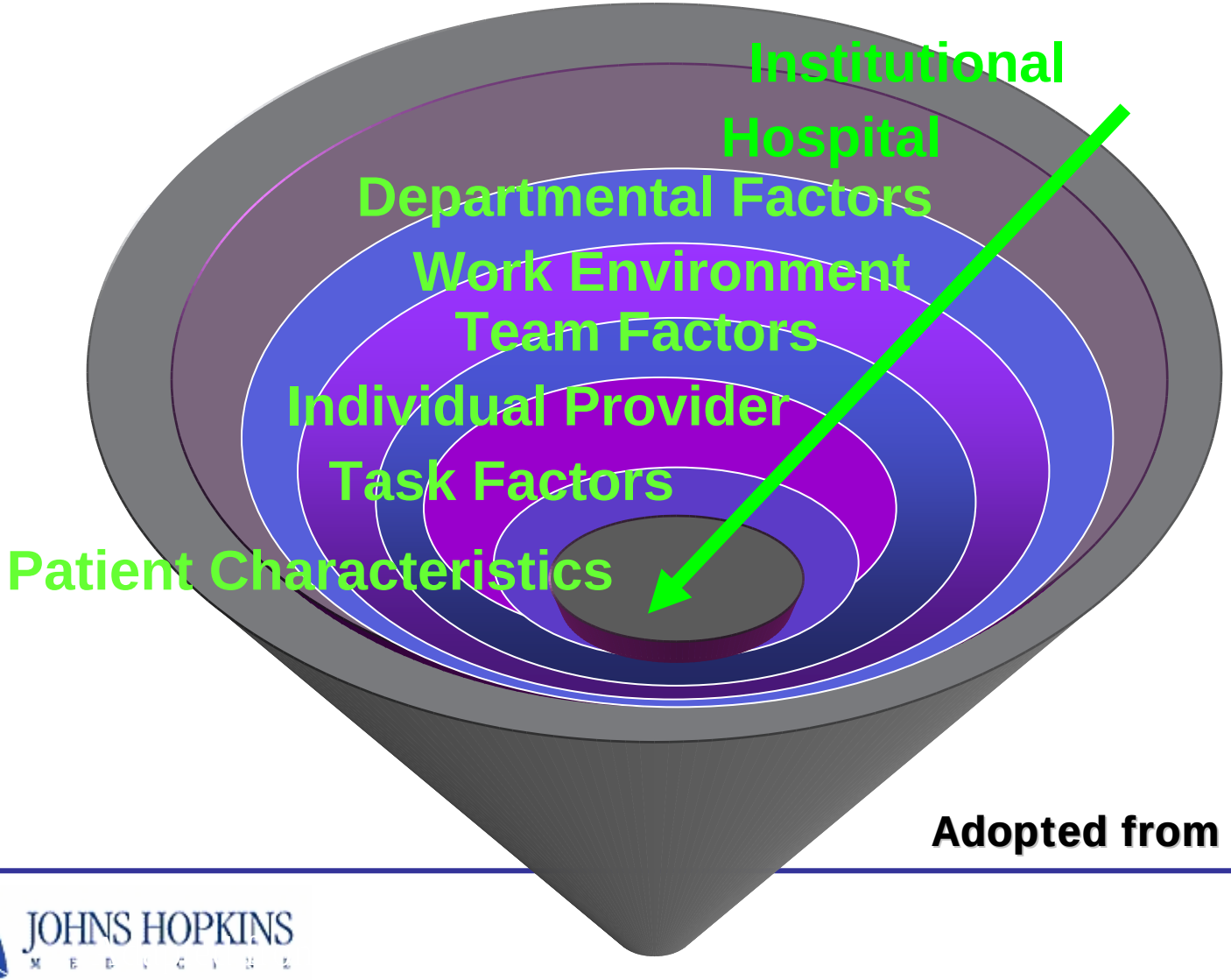
Pronovost Annals IM 2004

System Factors Impact Safety



Adopted from Vincent

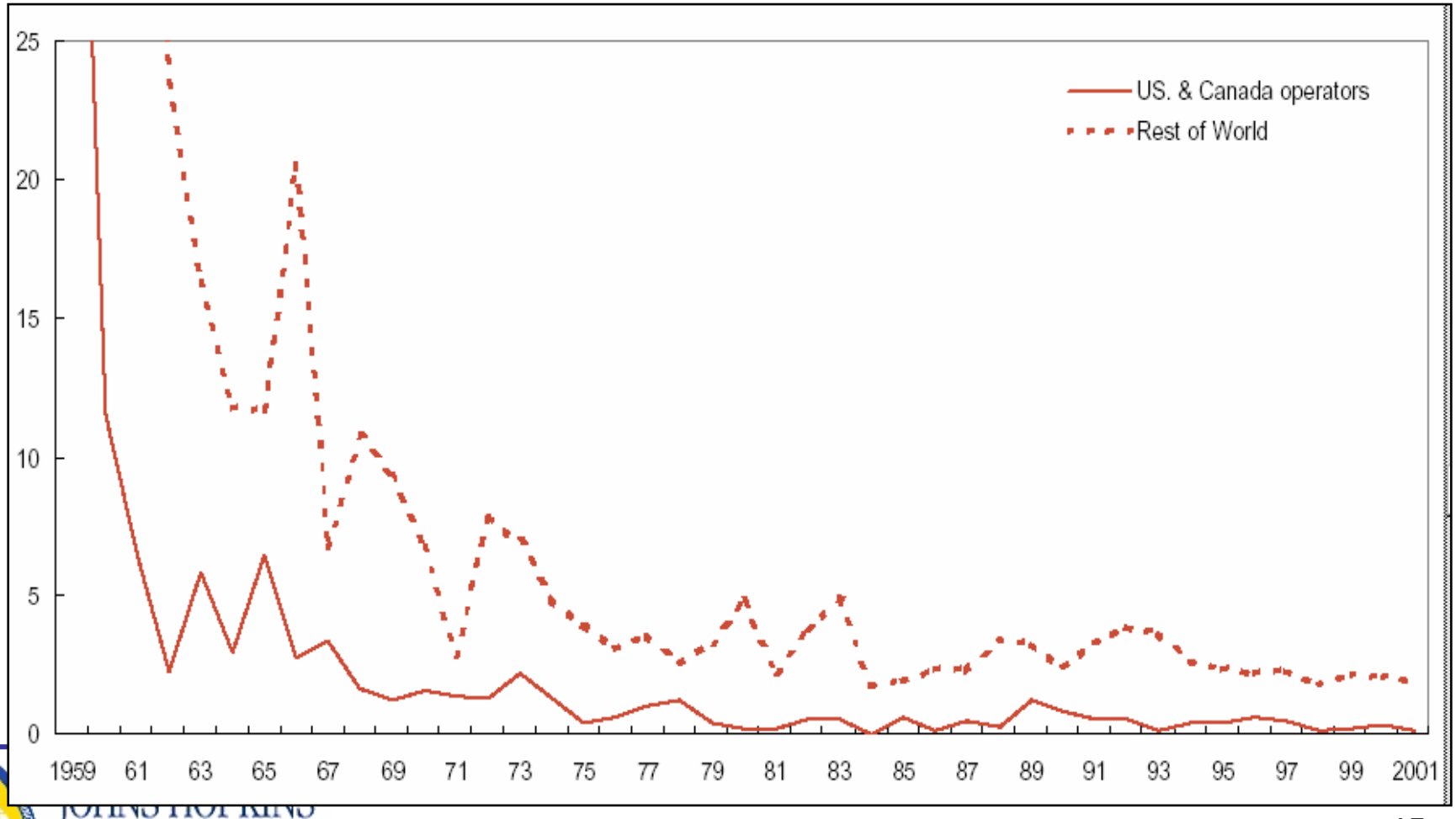

Brevibloc Injection
2500 mg/10 mL
(250 mg/mL)
10 mL Ampul
NOT FOR DIRECT I.V. INJECTION
MUST BE DILUTED

Evidence Regarding the Impact of ICU Organization on Performance

- Physicians
- Nurses
- Pharmacists

Pronovost JAMA 1999, 2002; Pronovost ECP 2001

Aviation Accidents per million departures



Principles of Safe Design

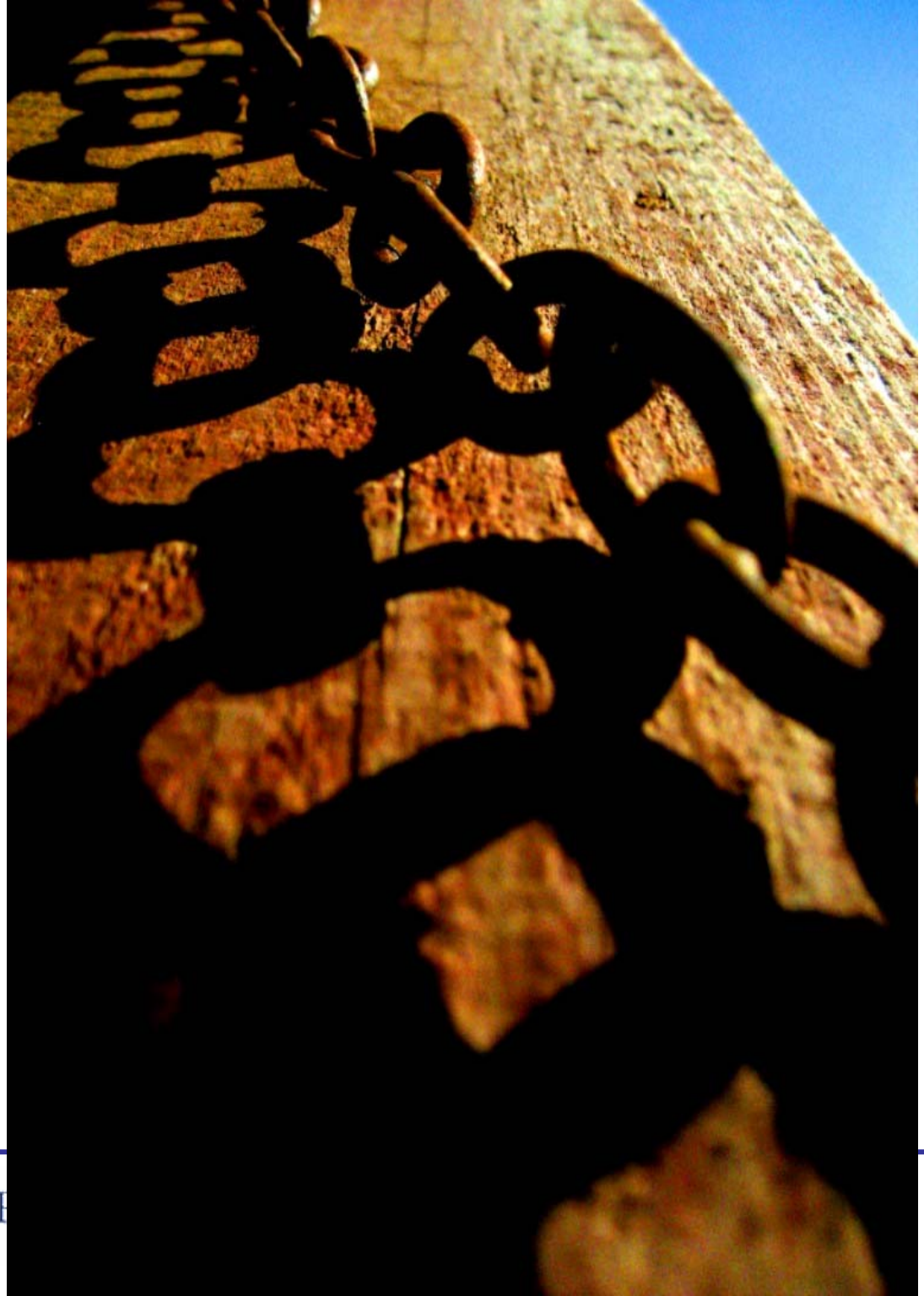
- Standardize
  - Eliminate steps if possible
- Create independent checks
- Learn when things go wrong
  - What happened
  - Why
  - What did you do to reduce risk
  - How do you know it worked

Standardize

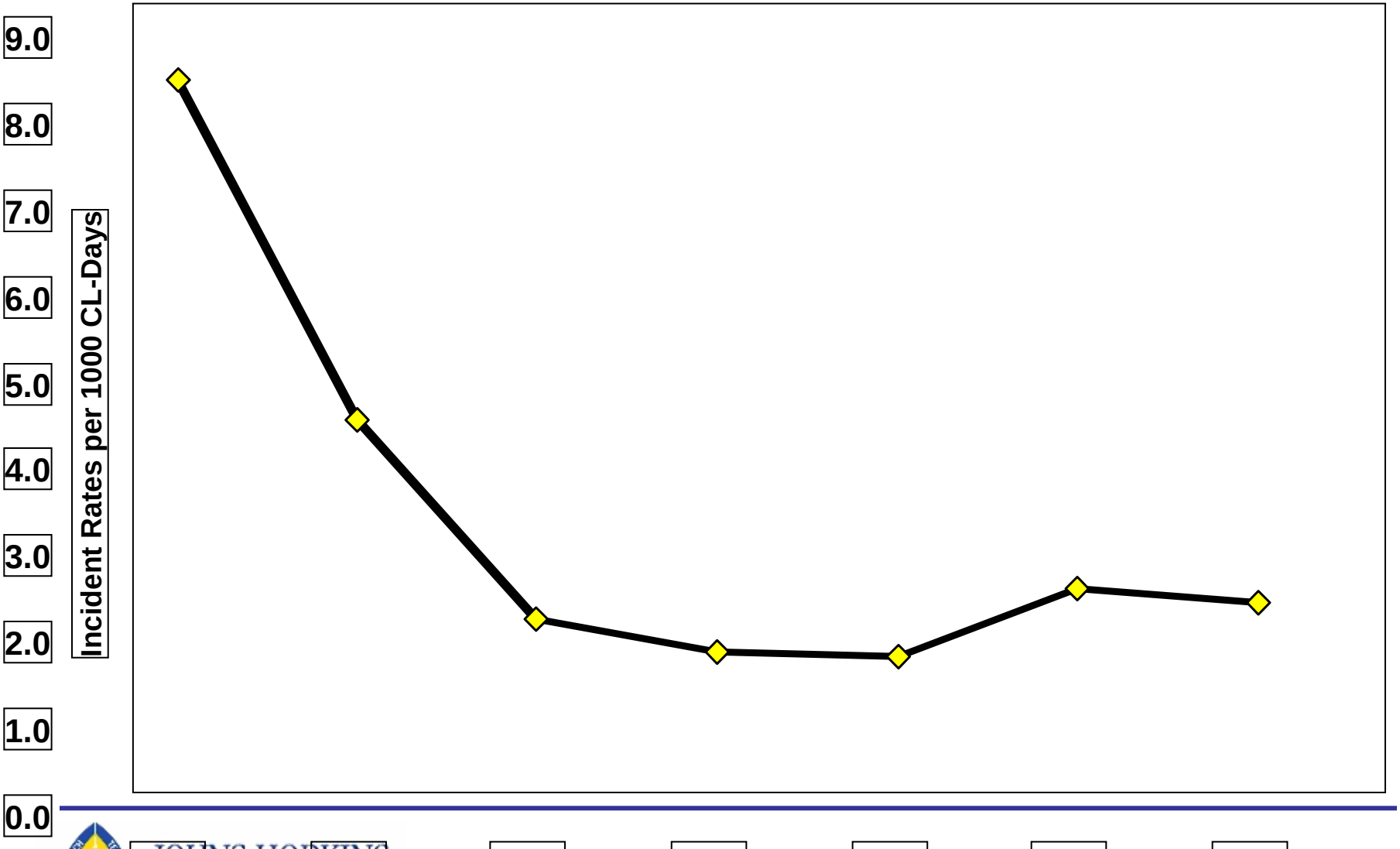
Line Cart Contents – 4 drawers

Eliminate Steps

Create Independent Checks



Results: CA BSI rates 2001-2007



2 year results from 103 ICUs

Time period	Median CRBSI rate	Incidence rate ratio
Baseline	2.7	1
Peri intervention	1.6	076
0-3 months	0	0.62
4-6 months	0	0.56
7-9 months	0	0.47
10-12 months	0	0.42
13-15 months	0	0.37
16-18 months	0	0.34

Principles of Safe Design apply to technical and teamwork

Basic Components and Processes of Communication

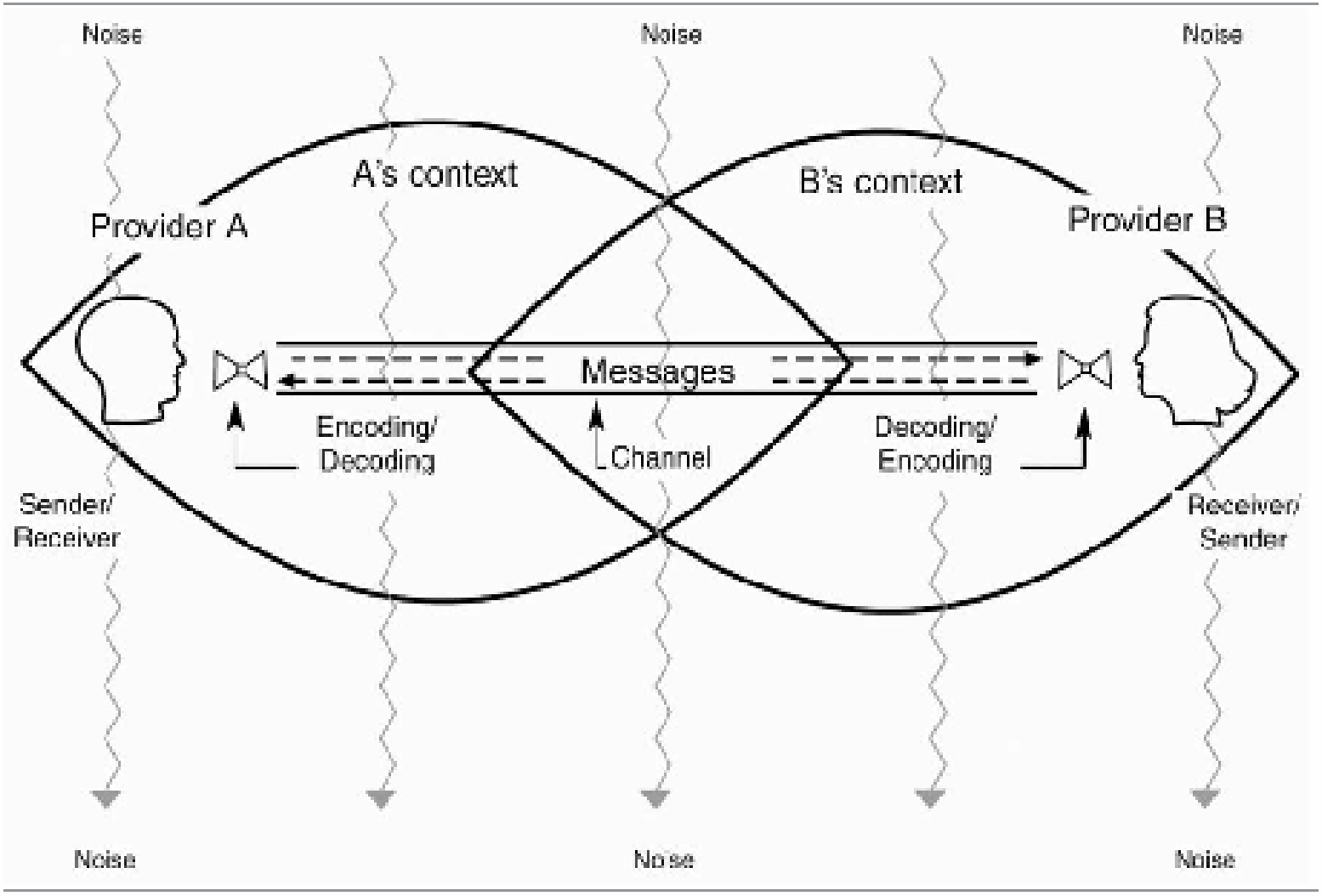
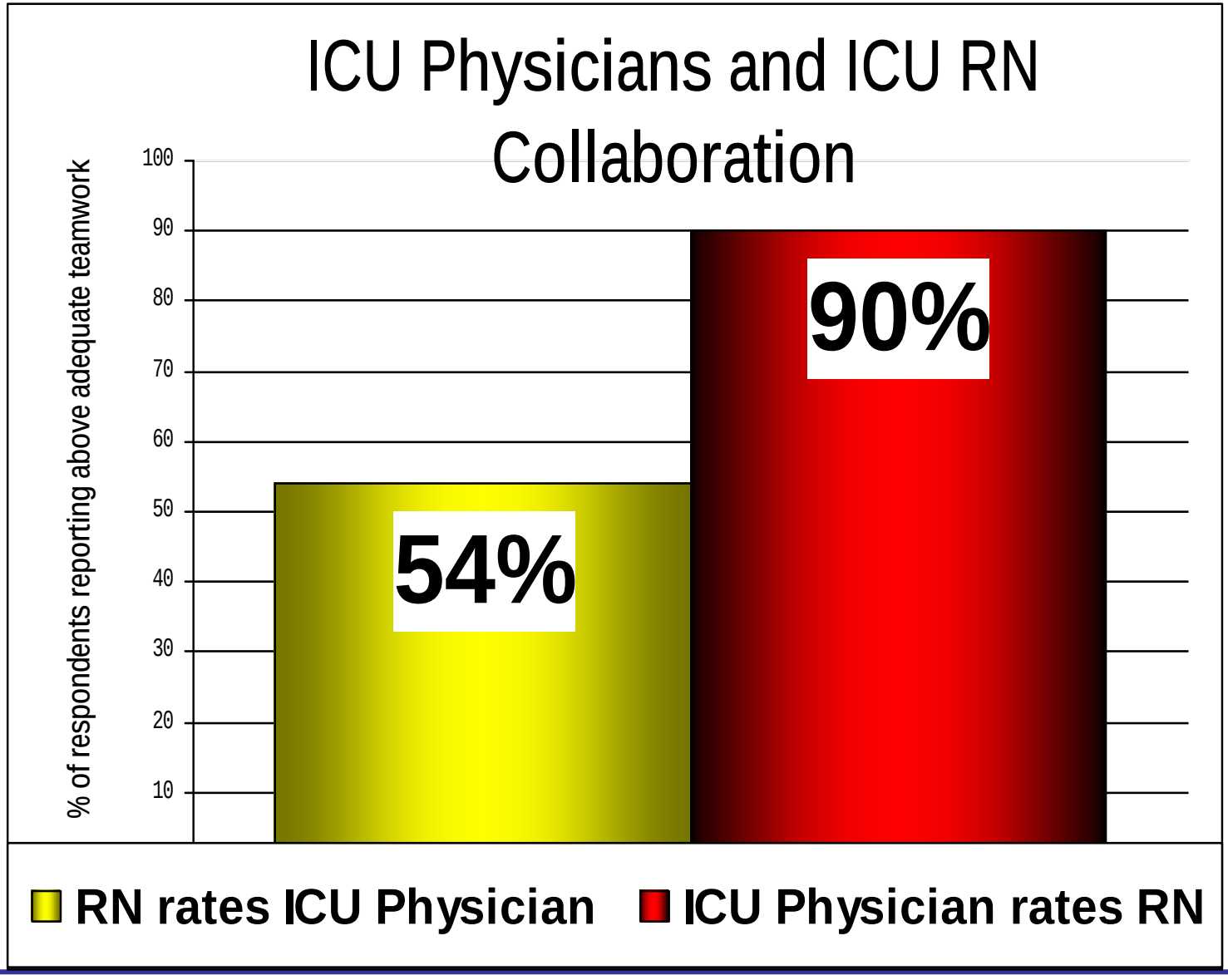


Figure 1. *Some of the basic components and processes of communication, as derived from communication theory and organizational studies, are shown.*

Elizabeth Dayton, Joint Commission Journal, Jan. 2007



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ICUSRS data

Teamwork tools

- Daily goals
- AM briefing
- Shadowing

Teams make wise decisions when there is diverse and independent input

- Wisdom of Crowds
- Alternate between convergent and divergent thinking
  - Get from OR to balcony


Sweets

Don’t Play Man Down

When you feel something say something

Your Role

- Pick one area and reflect on the systems that predict performance
  - Walk and observe the process
- Work to Mitigate Hazards
  - Standardize technical and teamwork
  - Create independent checks
  - Learn from mistakes
- Share what you learned

Your ability to make a difference

- Wash your hands upon entry and exit of room
- Round with nurses and other staff
- Do not play man down

Focus and Execute